Metrologic®

METROLOGIC INSTRUMENTS, INC.

IS3480 Quantum™*E* Scan Engine Installation and User's Guide

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TABLE OF CONTENTS

Introduction
- Product Overview 1
- Scanner and Accessories 2
- Scanner Components 4
- Maintenance 4
- Caution and Serial Number Labels 5
- Mounting Specifications 5

Installation
- RS232, RS232 TTL or Light Pen 6
- IBM 46xx or OCIA 7
- Keyboard Wedge 8
- Stand-Alone Keyboard Wedge 9
- Full Speed or Low Speed USB (Integrated) 10
- Low Speed USB (External with MX009) 11
- Notes for Laser Emulation 11

Scanner Operation
- Configurable Primary and Secondary Scan Pattern Modes 12
- Configurable Button Functions 12
- Sweet Spot Mode 17
- Indicators
  - Audible 18
  - Visual 19
  - Failure 20
- Depth of Field Specifications
  - Normal Scan Zone 21
  - Reduced Scan Zone 22
- Depth of Field by Bar Code Element Width
  - Normal Scan Zone 23
  - Reduced Scan Zone 24
- IR Activation Range
  - Normal 25
  - Reduced 25

Troubleshooting Guide 26
Design Specifications 30
Applications and Protocols 32
Default Settings - Communication Parameters 33
Upgrading the Flash ROM Firmware 38
Scanner and Cable Terminations 39
Laser and Product Safety 43
Limited Warranty 45
Patents 46
Index 47

INTRODUCTION

Quantum™ *E* is a miniature, omni-directional scanning engine with optional single-line scanning capability. The self-contained device is fully enclosed eliminating the need for an external window or custom enclosure. It is designed for use in OEM equipment such as price lookup systems and kiosks. Its slim design makes it ideal for integration and use with flat-screens.

Key Product Features

- Fully Automatic Scanning Operation
- PowerLink Compatible
- Data Editing
- 7 Beeper Tones
- Programmable Depth of Field
- Easy Programming
- Flash - Upgradeable Firmware
- User Configurable Pattern
- CodeGate®
- Sunrise 2005 Compliant

SCANNER	INTERFACE
IS3480-00	Laser Emulation, RS232 Transmit/Receive
IS3480-9	OCIA and RS232 Transmit/Receive
IS3480-11	IBM 46xx and Full RS232
IS3480-38	RS232 Low Speed USB, HID
IS3480-39	RS232 Low Speed USB, POS
IS3480-40	Full Speed USB
IS3480-41	RS232/Light Pen Emulation
IS3480-47	Keyboard Wedge, Stand-Alone Keyboard and RS232 Transmit/Receive
IS3480-102	RS232, TTL

Scanner and Accessories

BASIC KIT COMPONENTS	
Part No.	Description
IS3480	Quantum™*E* Scanner
00-02026	IS3480 Installation and User's Guide *
00-02407	MetroSelect® Configuration Guide *
00-02090	IS3480 Supplemental Configuration Guide *

** Guides also available for download at www.metrologic.com.*

OPTIONAL ACCESSORIES	
Part No.	Description
AC to DC Power Transformer - Regulated 5.2VDC @ 650 mA output.	
45-45593	120V United States and Canada
45-45591	220V-240V Continental European
45-45592	220V-240V United Kingdom
46-46803	220V-240V Australia
46-46983	220V-240V China
xxx - specifies connection to the host	
54-54xxx-3 *(default)*	PowerLink cable with built in power jack 2.1m (7') straight cord, short strain relief
53-53xxx-3 *(optional)*	PowerLink cable with built in power jack 2.7m (9') coiled cord, long strain relief
** Contact a Metrologic customer service representative for additional information on the MVC and MX009 cable series and the host connections available.	
MVC**	Metrologic Voltage Converter Cable ±12VDC to +5.2VDC
MX009-2**	MX009 USB Converter Cable

Other items may be ordered for the specific protocol being used. To order additional items, contact the dealer, distributor or call Metrologic's customer service department at 1-800-436-3876.

Scanner and Accessories

OPTIONAL ACCESSORIES	
Part No.	Description
54-54002x-3	Keyboard Wedge PowerLink cable
54-54020x-3	Stand Alone Keyboard PowerLink cable
54-54213x-N-3	USB Locking Power/Communication Cable, 3 m (10') straight cord, short strain relief
54-54214x-N-3	Full Speed USB Locking Power/Communication Cable, 5 m (17') straight cord, short strain relief This cable is for use with full speed USB (-40) interface only.
54-54235x-N-3	Low Speed USB Non-Locking Communication Cable 2.8 m (9.2') straight cord, short strain relief
49-00462	Utility Cable, 203 mm (8") Length
54-54249x-N-3	Communication Cable, Host end Not Terminated 203 mm (8") straight cord, short strain relief

REPLACEMENT PARTS	
Part No.	Description
36-01822x-3	Rubber Utility Seal

Other items may be ordered for the specific protocol being used. To order additional items, contact the dealer, distributor or call Metrologic's customer service department at 1-800-436-3876.

Scanner Components

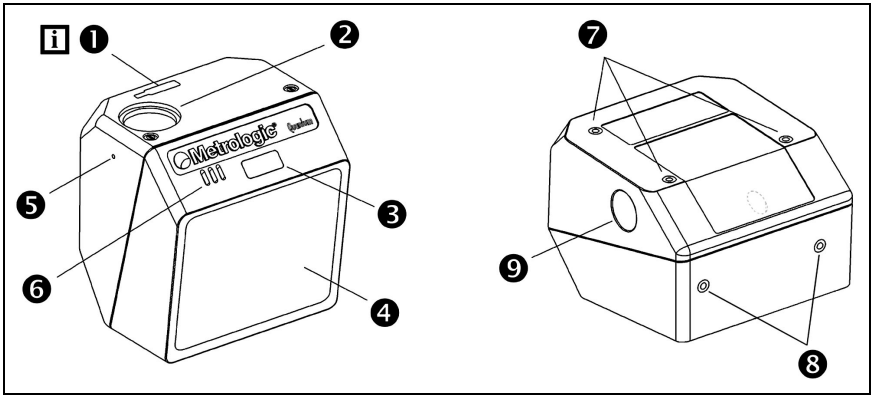


Figure 1. Scanner Components

ITEM NO.	DESCRIPTION
❶	Utility Connector Located Under Rubber Seal The rubber seal protecting the utility connector should only be removed if the utility connector is to be used.
❷	10-Pin RJ45, Female Socket
❸	Blue, White and Yellow LED Indicators
❹	Red Output Window (Laser Aperture)
❺	Pin Hole for Cable Release
❻	Speaker
❼	Three M2.5 x 0.45 Threaded Mounting Points
❽	Two M2.5 x 0.45 Threaded Mounting Points
❾	Button

Maintenance

Smudges and dirt can interfere with the proper scanning of a bar code. Therefore, the output window will need occasional cleaning.

1. Spray glass cleaner onto a lint free, non-abrasive cleaning cloth.
2. Gently wipe the scanner window.

Caution and Serial Number Labels

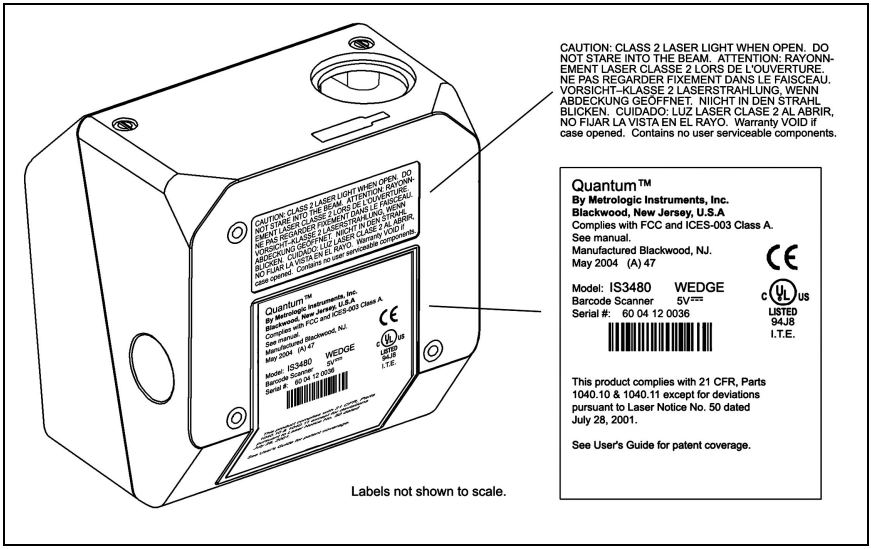

CAUTION: CLASS 2 LASER LIGHT WHEN OPEN. DO NOT STARE INTO THE BEAM. ATTENTION: RAYONNEMENT LASER CLASSE 2 LORS DE L'OUVERTURE. NE PAS REGARDER FIXEMENT DANS LE FAISCEAU. VORSICHT–KLASSE 2 LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NIICHT IN DEN STRAHL BLICKEN. CUIDADO: LUZ LASER CLASE 2 AL ABRIR, NO FIJAR LA VISTA EN EL RAYO. Warranty VOID if case opened. Contains no user serviceable components.
Quantum™
By Metrologic Instruments, Inc.
Blackwood, New Jersey, U.S.A
Complies with FCC and ICES-003 Class A.
See manual.
Manufactured Blackwood, NJ.
May 2004 (A) 47
Model: IS3480 WEDGE
Barcode Scanner 5V
Serial #: 60 04 12 0036
LISTED 94J8 I.T.E.
This product complies with 21 CFR, Parts 1040.10 & 1040.11 except for deviations pursuant to Laser Notice No. 50 dated July 28, 2001.
See User's Guide for patent coverage.
Labels not shown to scale.

Figure 2.

Mounting Specifications

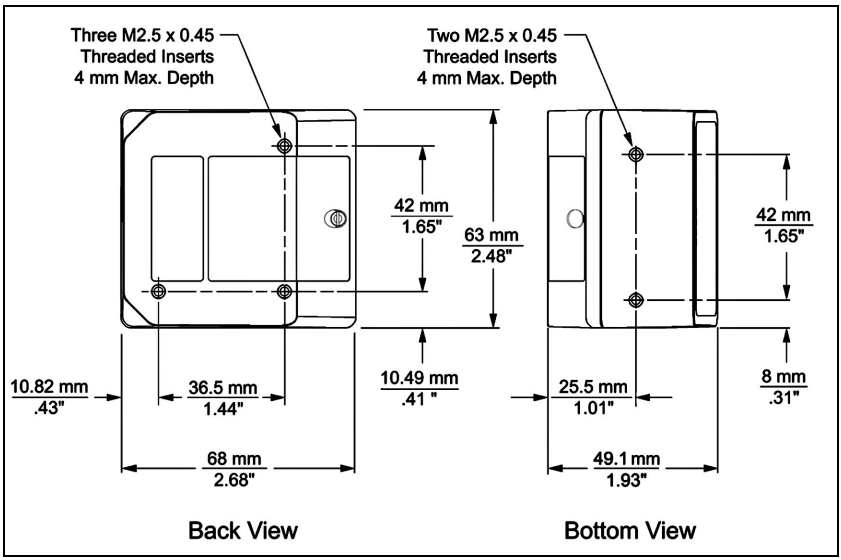


Figure 3.

RS232, RS232 TTL or Light Pen

1. Turn off the host device.
2. Plug the male 10-pin RJ45 end of the PowerLink cable into the 10-pin socket on the IS3480.
3. Connect the 9-pin female end of the PowerLink cable to the host device.

   Note: Skip to step 6 if receiving power from the host device.

4. Plug the external power supply into the power jack on the PowerLink cable.

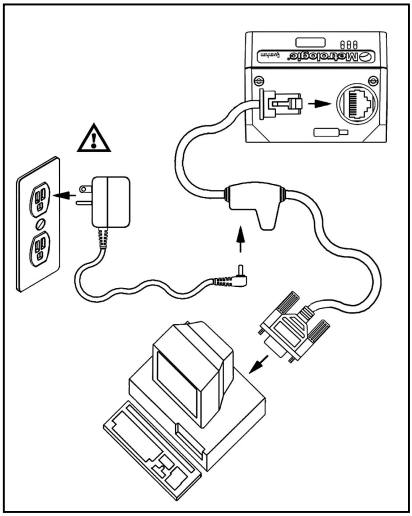


Figure 4.

> **STOP** Check the AC input requirements of the power supply to make sure the voltage matches the AC outlet. The outlet must be located near the equipment and be easily accessible.

5. Connect AC power to the transformer.
6. Turn on the host device.

> When the scanner first receives power, the blue LED will turn on; the scanner will simultaneously beep once and flash the white LED.

> Plugging the scanner into the serial port of the PC does not guarantee that scanned information will appear at the PC. A software driver and correct configuration setting are also required for proper communication to occur.

> **Caution**
> To maintain compliance with applicable standards, all circuits connected to the scanner must meet the requirements for SELV (Safety Extra Low Voltage) according to EN/IEC 60950.
>
> To maintain compliance with standard CSA C22.2 No. 60950/UL 60950 and norm EN/IEC 60950, the power source should meet applicable performance requirements for a limited power source.

IBM 46xx or OCIA

1. Turn off the host device.
2. Plug the male 10-pin RJ45 end of the MVC cable into the 10-pin socket on the IS3480.
3. Connect the other end of the MVC cable to the host device.
4. Turn on the host device.

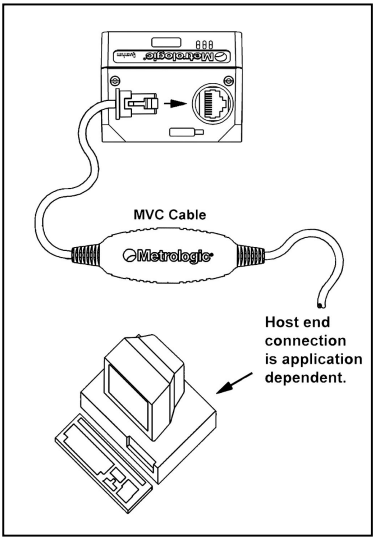


Figure 5.

When the scanner first receives power, the blue LED will turn on; the scanner will simultaneously beep once and flash the white LED.

Plugging the scanner into the serial port of the PC does not guarantee that scanned information will appear at the PC. A software driver and correct configuration setting are also required for proper communication to occur.

Caution:
To maintain compliance with applicable standards, all circuits connected to the scanner must meet the requirements for SELV (Safety Extra Low Voltage) according to EN/IEC 60950.

To maintain compliance with standard CSA C22.2 No. 60950/UL 60950 and norm EN/IEC 60950, the power source should meet applicable performance requirements for a limited power source.

Keyboard Wedge

1. Turn off the host device.
2. Plug the male 10-pin RJ45 end of the PowerLink cable into the 10-pin socket on the IS3480.
3. Disconnect the keyboard from the host device.
4. Connect the "Y" end of the PowerLink cable to the keyboard and the keyboard port on the host PC. If necessary use the male/female adapter cable supplied with the scanner for proper connections.
5. Plug the external power supply into the power jack on the PowerLink cable.

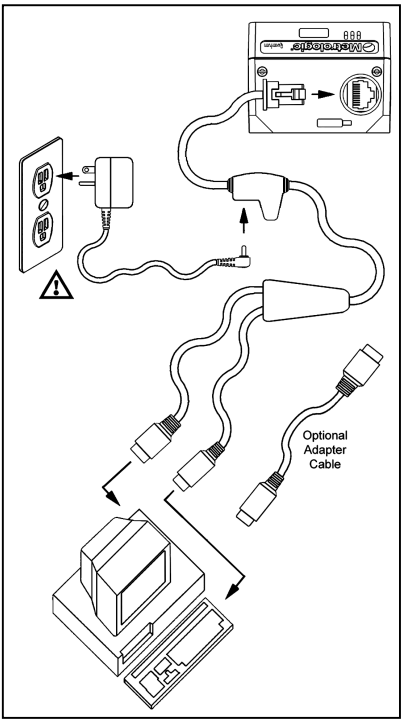


Figure 6.

> STOP Check the AC input requirements of the power supply to make sure the voltage matches the AC outlet. The outlet must be located near the equipment and be easily accessible.

6. Connect AC power to the transformer.
7. Turn on the host device.

> Powering the IS3480 directly from the host device can sometimes cause interference with the operation of the scanner or the computer. Not all computers supply the same current through the keyboard port. For this reason, Metrologic recommends using an external power supply. For additional information contact a Metrologic customer service representative.

> **Caution:**
> To maintain compliance with applicable standards, all circuits connected to the scanner must meet the requirements for SELV (Safety Extra Low Voltage) according to EN/IEC 60950.
>
> To maintain compliance with standard CSA C22.2 No. 60950/UL 60950 and norm EN/IEC 60950, the power source should meet applicable performance requirements for a limited power source.

Stand-Alone Keyboard Wedge

1. Turn off the host device.
2. Plug the male 10-pin RJ45 end of the PowerLink cable into the 10-pin socket on the IS3480.
3. Connect the other end of the PowerLink cable to the keyboard port on the host device.
4. Plug the external power supply into the power jack on the PowerLink cable.

> **STOP** Check the AC input requirements of the power supply to make sure the voltage matches the AC outlet. The outlet must be located near the equipment and be easily accessible.

5. Connect AC power to the transformer.
6. Turn on the host device.

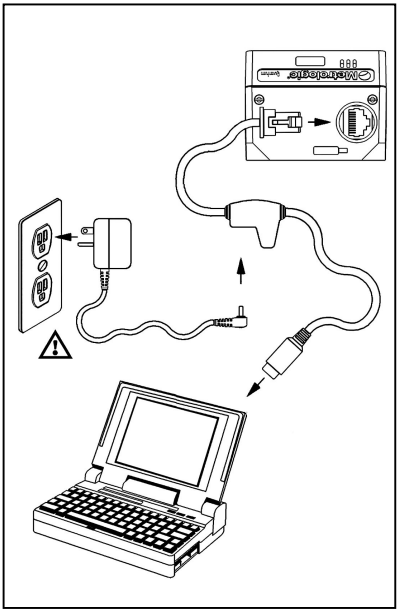


Figure 7.

> **i** Powering the IS3480 directly from the host device can sometimes cause interference with the operation of the scanner or the computer. Not all computers supply the same current through the keyboard port. For this reason, Metrologic recommends using an external power supply. For additional information contact a Metrologic customer service representative.

> **⚠ Caution:**
> To maintain compliance with applicable standards, all circuits connected to the scanner must meet the requirements for SELV (Safety Extra Low Voltage) according to EN/IEC 60950.
>
> To maintain compliance with standard CSA C22.2 No. 60950/UL 60950 and norm EN/IEC 60950, the power source should meet applicable performance requirements for a limited power source.

Full Speed or Low Speed USB (Integrated)

1. Turn off the host device.
2. Plug the male 10-pin RJ45 end of the USB PowerLink cable into the 10-pin socket on the IS3480.
3. Plug the other end of the USB interface cable into the host device's USB port.
4. Plug the external power supply in to the power jack on the USB PowerLink cable.

> **STOP** Check the AC input requirements of the power supply to make sure the voltage matches the AC outlet. The outlet must be located near the equipment and be easily accessible.

5. Connect AC power to the transformer.
6. Turn on the host device.

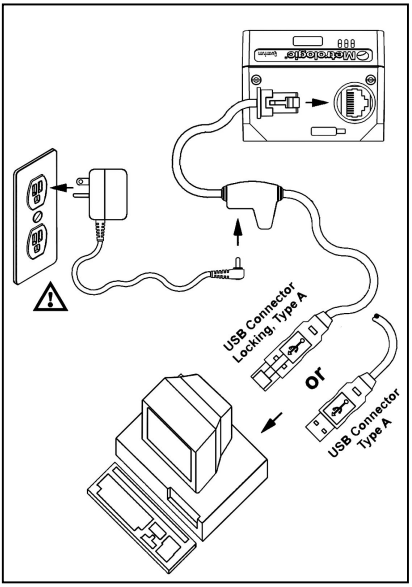


Figure 8.

> Plugging the scanner into the USB port of the PC does not guarantee that scanned information will appear at the PC. A software driver and correct configuration setting are also required for proper communication to occur.

> **Caution:**
> To maintain compliance with applicable standards, all circuits connected to the scanner must meet the requirements for SELV (Safety Extra Low Voltage) according to EN/IEC 60950.
>
> To maintain compliance with standard CSA C22.2 No. 60950/UL 60950 and norm EN/IEC 60950, the power source should meet applicable performance requirements for a limited power source.

Notes for Low Speed USB (External with MX009)

Metrologic's MX009 USB cable is a device that converts serial RS232 formatted data to either USB Keyboard or USB Point-of-Sale communication protocol.

Please refer to the MX009 USB Converter Cable Programming Guide (MLPN 00-02574) supplied with your MX009 cable for detailed installation and programming guidelines.

Notes for Laser Emulation

IS3480-00 Only

The IS3480-00 leaves the factory with the Laser Emulation Mode enabled. If the Recall Defaults bar code is scanned while reconfiguring the scanner the laser emulation mode will no longer be enabled.

Scan the following barcode to re-enable the laser emulation interface. This feature is only supported for IS3480-00 models.

Enable Laser Emulation Mode

Configurable Primary and Secondary Scan Pattern Modes

There are two configurable scan pattern modes available with the IS3480.

- The **primary** scan pattern mode is the default scan pattern active when the scanner starts.
- The **secondary** scan pattern mode is activated by pressing the button located on the side of the scanner. This mode is also referred to as the button mode. For additional information on Quantum*E*'s button modes and an example of each, please refer to *Configurable Button Functions* below.

The scanner returns to the primary scan pattern mode after a double click of the button or if the unit has not scanned a bar code for the duration of a pre-configured time limit.

Each pattern mode can be configured to use one of three scan patterns listed below. Please refer to the MetroSelect Configuration Guide for information on changing the default scan pattern settings.

- all scan lines on (omnidirectional reading)
- single-line (menu reading)
- horizontal raster

If CodeGate is *enabled*, it will apply to the secondary pattern mode when scanning. For detailed information on CodeGate and the button refer to the *Configurable Button Functions*.

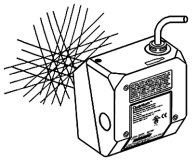
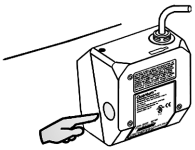
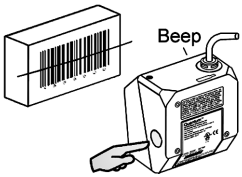
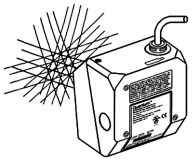
Configurable Button Functions

The button on the side of the IS3480 can be configured to function in one of four modes.

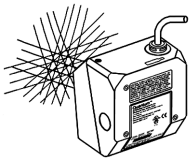
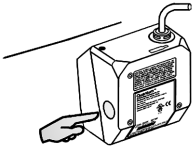
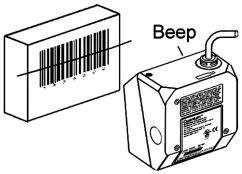
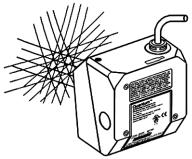
- Button *Click* Mode, with CodeGate Enabled (Default)
- Button *Click* Mode, with CodeGate Disabled
- Button *Hold* Mode, with CodeGate Enabled
- Button *Hold* Mode, with CodeGate Disabled

The following pages include examples of how the button will function when the unit has been configured to operate in each of the four button modes.

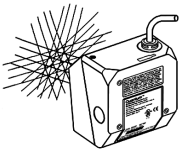
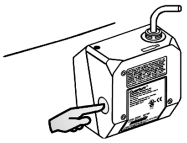
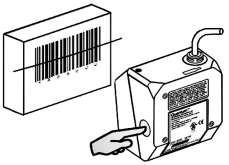
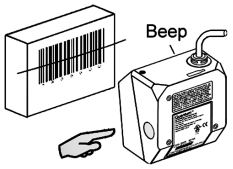
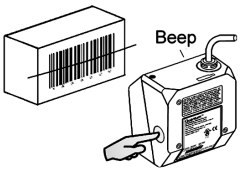
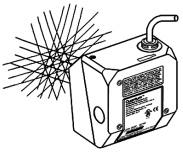
Configurable Button Functions

SECONDARY SCAN PATTERN BUTTON CLICK MODE WITH CODEGATE ENABLED	
For illustration purposes the unit's primary scan pattern has been set to *all scan lines (omnidirectional reading)* and the secondary pattern has been set to *single-line (menu reading)* with a 10 second button click timeout configured.	
	1. The primary scan pattern is active when the scanner starts.
	2. To activate the secondary scan pattern, **press** and **release** the button.
	3. To decode and transmit the bar code, **press** and **release** the button. The scanner will beep once.
	4. To reactivate the primary scan pattern, **double click** the button or after 10-seconds of no-scanning the unit will automatically reactivate the primary pattern.

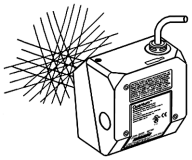
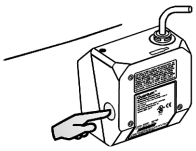
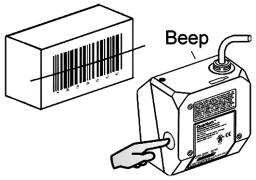
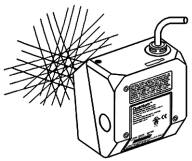
Configurable Button Functions

SECONDARY SCAN PATTERN BUTTON CLICK MODE WITH CODEGATE DISABLED	
For illustration purposes the unit's primary scan pattern has been set to *all scan lines (omnidirectional reading)* and the secondary pattern has been set to *single-line (menu reading)* with a 10 second button click timeout configured.	
	1. The primary scan pattern is active when the scanner starts.
	2. To activate the secondary scan pattern, **press** and **release** the button.
	3. The unit will beep once as it decodes and transmits the bar code.
	4. To reactivate the primary scan pattern, **double click** the button or after 10-seconds of no-scanning the unit will automatically reactivate the primary pattern.

Configurable Button Functions

SECONDARY SCAN PATTERN BUTTON HOLD MODE WITH CODEGATE ENABLED	
For illustration purposes the unit's primary scan pattern has been set to *all scan lines (omnidirectional reading)* and the secondary pattern has been set to *single-line (menu reading)* with a 10 second button click timeout configured.	
	1. The primary scan pattern is active when the scanner starts.
	2. To activate the secondary scan pattern, **press** and **hold** the button.
	3. To scan the bar code, **align** the laser line over the bar code while continuing to **hold** down the button.
	4. To transmit the bar code, **release** the button. The scanner will beep once.
	5. To scan and transmit additional bar codes, **repeat** steps 2 through 4.
	6. The primary scan pattern will automatically reactivate after the button is released and no bar code is present in the scan field.

Configurable Button Functions

SECONDARY SCAN PATTERN BUTTON HOLD MODE WITH CODEGATE DISABLED	
For illustration purposes the unit's primary scan pattern has been set to *all scan lines (omnidirectional reading)* and the secondary pattern has been set to *single-line (menu reading)* with a 10 second button click timeout configured.	
	1. The primary scan pattern is active when the scanner starts.
	2. To activate the secondary scan pattern, **press** and **hold** the button.
	3. To scan and transmit the bar code, **align** the laser line over the bar code while continuing to **hold** down the button. The scanner will beep once to indicate the bar code has been scanned and transmitted.
	4. The primary scan pattern will automatically reactivate after the button is released and no bar code is present in the scan field.

Sweet Spot Mode

The *sweet spot mode* is used to determine where the maximum read rate area or "sweet spot" is located for a specific bar code type. When activated this mode provides visual and audible feedback indicating how the scanner is scanning.

Number of Illuminated LEDs	Beeper Pitch		% of Maximum Read Rate
4	high		81 - 100%
3			61 - 80%
2			41 - 60%
1			21 - 40%
0	low		0 - 20%

For further information on the sweet spot mode and instructions on how to enable it, refer the MetroSelect Configuration Guide (00-02407).

Audible Indicators

When the IS3480 is in operation, it can provide audible feedback. These sounds indicate the status of the scanner. Eight settings are available for the tone of the beep (normal, 6 alternate tones and no tone). For instruction on how to change the tone of the beeper, refer to the MetroSelect Configuration Guide (00-02407).

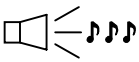
One Beep

When the scanner *first* receives power the white LED will flash, the blue LED will turn on and the scanner will beep once (*the white LED will remain on for the duration of the beep*). The scanner is now ready to scan.

When the scanner *successfully* reads a bar code, the white LED will flash and the scanner beeps once (*if configured to do so*). If the scanner does not beep once and the white light does not flash, then the bar code has *not* been successfully read.

Razzberry Tone

This is a failure indicator. Refer to *Failure Mode Indicators* on page 20.

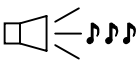


Three Beeps - during operation

When placing the scanner in configuration mode, the white LED will flash while the scanner simultaneously beeps three times. The white and blue LEDs will continue to flash until the unit exits configuration mode. Upon exiting configuration mode, the scanner will beep three times and the white LED will stop flashing.

When configured, 3 beeps can also indicate a communications timeout during normal scanning mode.

When using one-code-programming, the scanner will beep three times: the current selected tone, followed by a short pause, a high tone and a low tone. This tells the user that the single configuration bar code has *successfully* configured the scanner.



Three Beeps - on power up

This is a failure indicator. Refer to *Failure Mode Indicators* on page 20.

Visual Indicators

There are four LEDs located on the top of the IS3480. When the scanner is on, the flashing or constant illumination of the LEDs indicates the status of the current scan and the scanner.

No LEDs

The LEDs will not be illuminated if the scanner is not receiving power from the host or transformer. They are also not illuminated when all lasers are turned off for any reason.

Steady Blue

When the laser is active, the blue LED is illuminated. The blue LED will remain illuminated until the laser is deactivated.

Steady Blue and Single White Flash

When the scanner successfully reads a bar code, the white LED will flash and the scanner will beep once. If the white LED does not flash or the scanner does not beep once, then the bar code has not been successfully read.

Steady White and Blue

After a successful scan, the scanner transmits the data to the host device. Some communication modes require that the host inform the scanner when data is ready to be received. If the host is not ready to accept the information, the scanner's white LED will remain on until the data can be transmitted.

Alternating Blue and White Flashes

This indicates the scanner is in program mode. A razzberry tone indicates that an invalid bar code has been scanned in this mode.

Steady White, Blue Off

This indicates the scanner may be waiting for communication from the host.

Failure Mode Indicators

Flashing Blue and One Razzberry Tone

This indicates that the scanner has experienced a laser subsystem failure. Return the unit to an authorized service center for repair.

Flashing Blue and White and Two Razzberry Tones

This indicates that the scanner has experienced a motor failure. Return the unit to an authorized service center for repair.

Continuous Razzberry Tone with Both LEDs Off

If, upon power up, the scanner emits a continuous razzberry tone, then the scanner has an electronic failure. Return the unit to an authorized service center for repair.

Three Beeps - On Power Up

If the scanner beeps 3 times on power up then, the nonvolatile memory that holds the scanner configuration has failed. Return the unit to an authorized service center for repair.

Depth of Field Specifications*

Normal Scan Zone

Specifications are based on a 0.33 mm (13 mil) bar code.

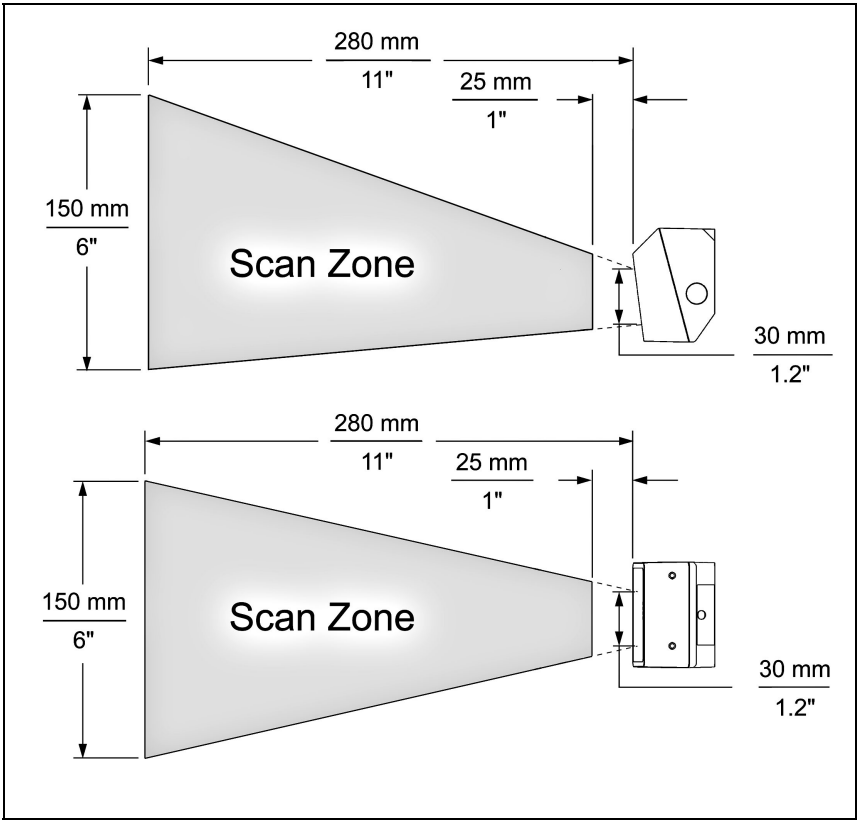


Figure 9. Normal Depth of Field

* *All specifications are subject to change without notice.*

Depth of Field Specifications*

Reduced Scan Zone

Specifications are based on a 0.33 mm (13 mil) bar code.

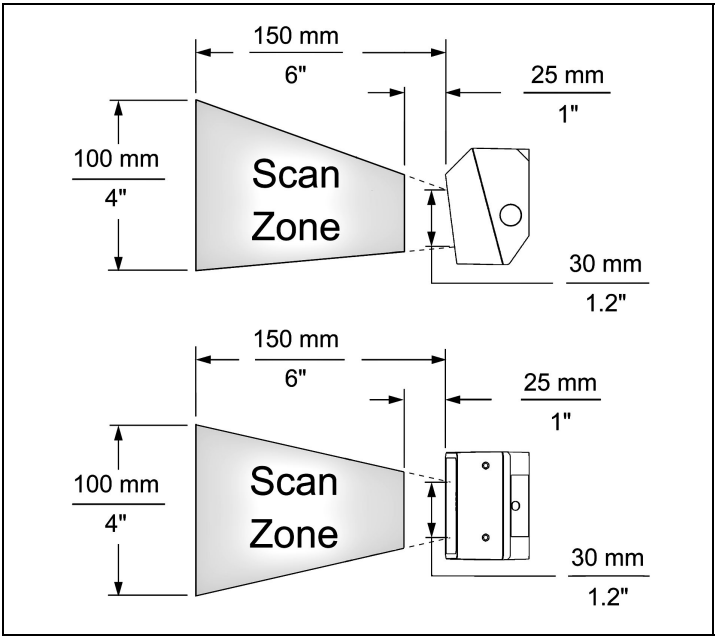
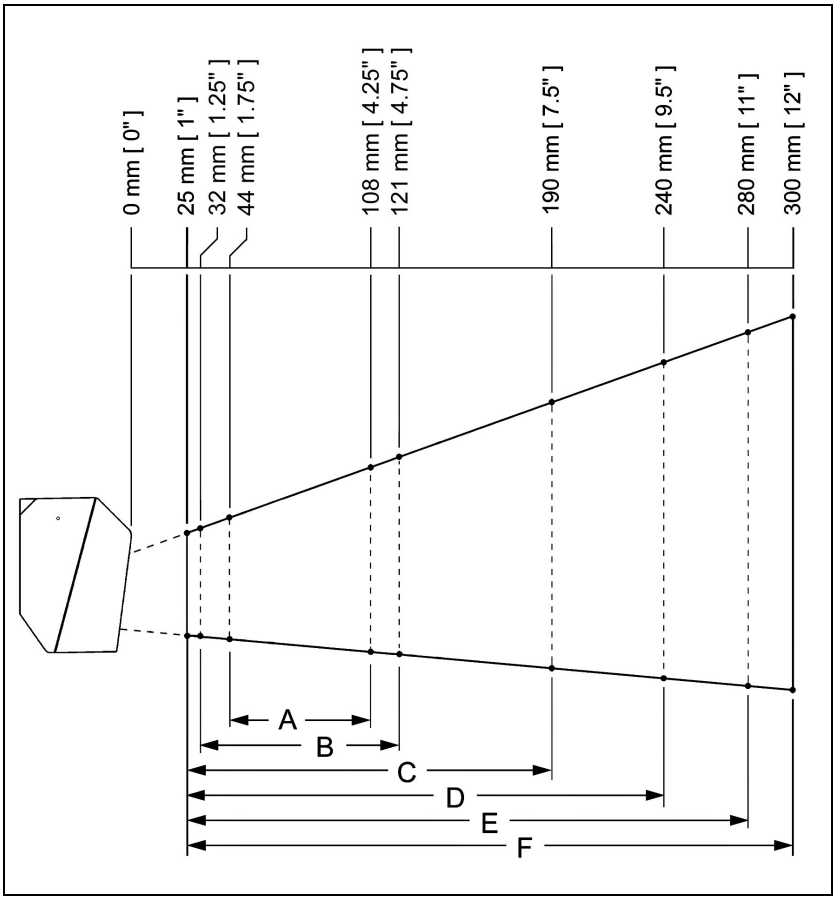


Figure 10. Reduced Depth of Field

* *All specifications are subject to change without notice.*

Depth of Field by Bar Code Element Width*

Normal Scan Zone



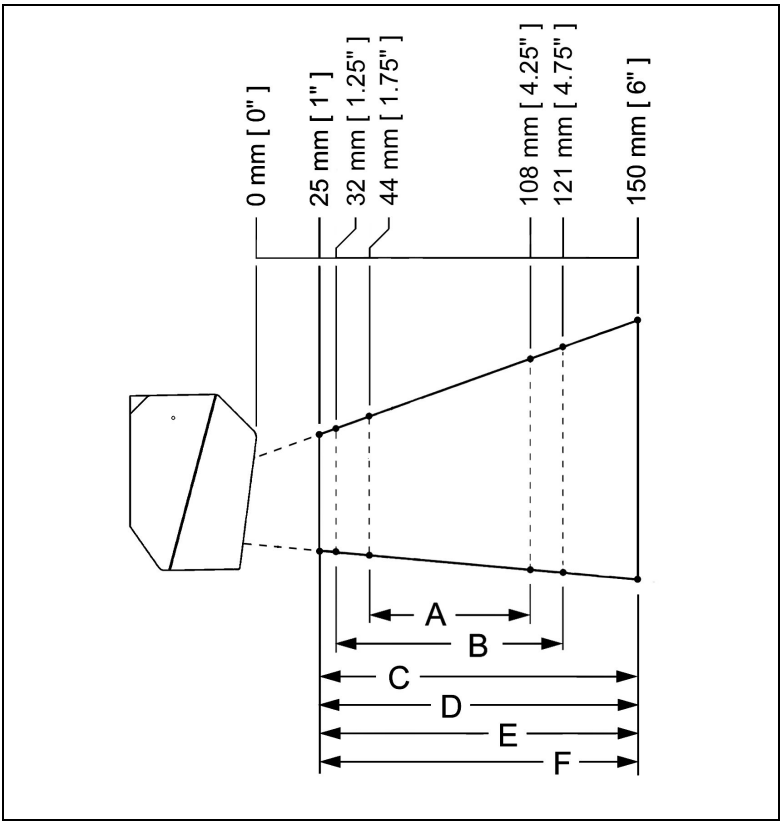
MINIMUM BAR CODE ELEMENT WIDTH						
	A	**B**	**C**	**D**	**E**	**F**
mm	.13	.15	.19	.25	.33	.66
mils	5.2	5.7	7.5	10	13	26

Figure 11. Normal Scan Zone by Bar Code Element Width

** All specifications are subject to change without notice.*

Depth of Field by Bar Code Element Width*

Reduced Scan Zone



MINIMUM BAR CODE ELEMENT WIDTH						
	A	**B**	**C**	**D**	**E**	**F**
mm	.13	.15	.19	.25	.33	.66
mils	5.2	5.7	7.5	10	13	26

Figure 12. Reduced Scan Zone by Bar Code Element Width

** All specifications are subject to change without notice.*

IR Activation Range*

Normal

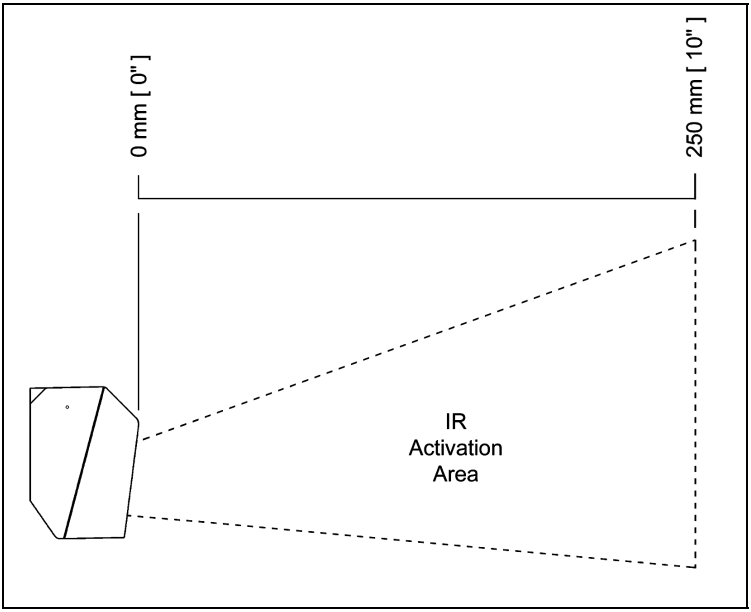


Figure 13. Normal IR Activation Range

Reduced

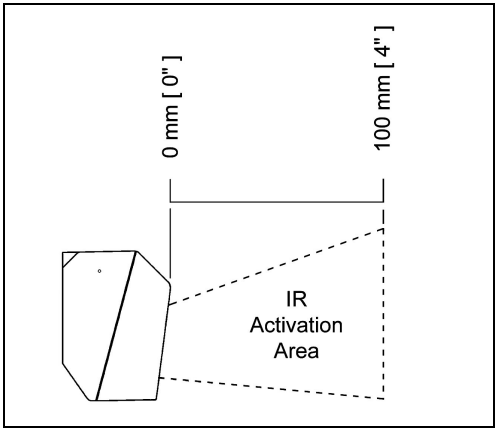


Figure 14. Reduced IR Activation Range

** All specifications are subject to change without notice.*

TROUBLESHOOTING GUIDE

The following guide is for reference purposes only. Contact a Metrologic representative at 1-800-ID-METRO or 1-800-436-3876 to preserve the limited warranty terms on page 45.

Symptoms	Possible Cause(s)	Solution
All Interfaces		
The unit has no LEDs, beeper or motor spin.	No power is being supplied to the scanner.	Check the transformer, outlet and power strip. Make sure the cable is plugged into the scanner.
The unit has no LEDs and / or beeper.	No power is being supplied to the scanner from host.	Some host systems cannot supply enough current to power the IS3480. Use the power supply included with the scanner.
There are multiple scans upon presentation of code.	The same symbol timeout is set too short.	Adjust the same symbol timeout for a longer time increment.
The unit powers up but does not beep.	The beeper is disabled.	Enable the beeper.
	No tone is selected.	Select a tone.
The unit powers up but does not scan and/or beep.	The unit is trying to scan a particular symbology that is not enabled.	UPC/EAN, Code 39, Interleaved 2 of 5, Code 93, Code 128 and Codabar are enabled by default. Verify that the type of bar code being read has been selected
	The scanner has been programmed for a character length lock, or a minimum length and bar code being scanned does not satisfy the programmed criteria	Verify that the bar code that is being scanned falls into the criteria. *Typical of Non-UPC/EAN codes. The scanner defaults to a minimum of 4 character bar code.*

Symptoms	Possible Cause(s)	Solution
All Interfaces		
The unit scans a bar code, but locks up after the first scan (*the white LED stays on*).	The scanner is configured to support some form of host handshaking but is not receiving the signal.	If the scanner is setup to support ACK/NAK, RTS/CTS, XON/XOFF or D/E, verify that the host cable and host are supporting the handshaking properly.
The unit scans but the data transmitted to the host is incorrect.	The scanner's data format does not match the host system requirements.	Verify that the scanner's data format matches the format required by the host. Make sure that the scanner is connected to the proper host port.
Scanner beeps at some bar codes and NOT for others of the same bar code symbology.	The print quality of the bar code is suspect.	The type of printer and/or the printer settings could be the problem. Check the print mode or change the printer settings. For example, change to econo mode or high speed.
	The aspect ratio of the bar code is out of tolerance.	
	The bar code may have been printed incorrectly.	Check if it is a check digit, character or border problem.
	The scanner is not configured correctly for the type of bar code.	Check if check digits are set properly.
	The minimum symbol length setting does not work with the bar code.	Check if the correct minimum symbol length is set.

Symptoms	Possible Cause(s)	Solution
All Interfaces		
During power up the unit beeps 3 times.	There is a non-volatile RAM failure.	Contact a Metrologic service representative.
During power up the unit razzes continuously.	There is a RAM or ROM failure.	Contact a Metrologic service representative.
During power up the unit razzes once and the blue LED flashes.	There is a VLD failure.	Contact a Metrologic service representative.
During power up the unit razzes twice and both LEDs flash.	There is a scanner motor failure.	Contact a Metrologic service representative.
RS232 Only		
The unit powers up OK and scans OK but does not communicate properly to the host.	The com port at the host is not working or is not configured properly.	Check to make sure that the baud rate and parity of the scanner and the communication port match and that the program is looking for RS232 data.
	The cable is not connected to the proper com port.	
	The com port is not operating properly.	

Symptoms	Possible Cause(s)	Solution
RS232 Only		
The host is receiving data but the data does not look correct.	The scanner and host may not be configured for the same interface.	Check that the scanner and the host are configured for the same interface.
Characters are being dropped.	The intercharacter delay needs to be added to the transmitted output.	Add some intercharacter delay to the transmitted output by using the MetroSelect Configuration Guide (MLPN 00-02407).
Keyboard Wedge Only		
The unit scans the bar code but there is no data.	The unit may not be configured correctly.	Make sure the scanner is configured for the appropriate mode.
The unit scans but the data is not correct.	The unit may not be configured correctly.	Make sure that the proper PC type (ie. AT, PS2 or XT) is selected. Verify correct country code and data formatting are selected. Adjust the intercharacter delay.
The unit is not transmitting each character.	The unit may not be configured correctly.	Increase the interscan code delay setting. Adjust whether the F0 break is transmitted. It may be necessary to try both settings.
Alpha characters show as lower case.	The computer is in caps lock mode.	Enable *caps lock detect* setting of the scanner to detect whether the PC is operating in caps lock.
Everything works except for a couple of characters.	These characters may not be supported by the current country's key look up table.	Try operating the scanner in *Alt Mode*.

	IS3480	
Operational		
Light Source:	**V**isible **L**aser **D**iode (VLD) @ 650 nm	
Laser Power:	1.1 mW	
Normal Depth of Field:	25 mm - 280 mm (1”- 11”)	0.33 mm (13 mil) bar code
Reduced Depth of Field:	25 mm - 150 mm (1”- 6”)	
Omni Scan		
Scan Speed:	1650 scan lines per second	
No. of Scan Lines:	20	
Single-Line		
Scan Speed:	80 scan lines per second	
No. of Scan Lines:	1	
Motor Speed:	5000 RPM	
Min Bar Width:	0.127 mm (5.0 mil)	
Decode Capability:	All standard 1-D bar codes including RSS-14, RSS-Expanded, and RSS-14 Limited	
System Interfaces:	RS232, Keyboard Wedge, Stand-Alone Keyboard, Light Pen Emulation, IBM468x/469x, USB (low speed and full speed), Laser Emulation, RS232 TTL	
Print Contrast:	35% minimum reflectance difference	
No. Characters Read:	Up to 80 data characters Maximum number will vary based on symbology and density.	
Beeper Operation:	7 tones or no beep	
Indicators (LED):	Blue = laser on, ready to scan	
	White = good read, decoding	
Mechanical		
Width:	63 mm (2.48”)	
Depth:	50 mm (1.97”)	
Height:	68 mm (2.68”)	
Weight:	6 oz (170 g)	

Specifications subject to change without notice.

DESIGN SPECIFICATIONS

	IS3480
Electrical	
Voltage Supply:	5VDC ± 0.25V
Operating Power:	1.375 W
Standby Power:	1.0 W
Operating Current:	275 mA typical at 5VDC
Standby Current:	200 mA typical at 5VDC
DC Transformers:	Class II; 5.2VDC @ 650 mA
Laser Class 1:	IEC 60825-1:1993+A1:1997+A2:2001 EN 60825-1:1994+A11:1996+A2:2001
EMC:	FCC, ICES-003 & EN 55022 Class A
Environmental	
Operating Temperature:	-20°C to 40°C (-4°F to 104°F)
Storage Temperature:	-40°C to 60°C (-40°F to 140°F)
Humidity:	5% to 95% relative humidity, non-condensing
Contaminants:	Sealed to resist airborne particulate contaminants
Ventilation:	None required

Specifications subject to change without notice.

The model number on each scanner includes the scanner number and factory default communications protocol.

SCANNER	VERSION IDENTIFIER	COMMUNICATION PROTOCOL(S)
IS3480	00	Laser Emulation and RS232 Transmit/Receive
	9	OCIA and RS232 Transmit/Receive
	11	IBM 46XX and Full RS232C
	38	RS232 Low Speed USB, HID
	39	RS232 Low Speed USB, POS
	40	Full-Speed USB
	41	Full RS232C/Light Pen Emulation
	47	Keyboard Wedge, Stand-Alone Keyboard and RS232 Transmit/Receive
	102	RS232, **T**ransistor to **T**ransistor **L**ogic (TTL)

The IS3480 scanner with Built-in PC Keyboard Wedge Interface is designed to be used for keyboard emulation only. Many RS232 programmable functions (e.g. formatting) available in other Metrologic scanners are also available as keyboard wedge functions.

The following are the most important selectable options specific to the keyboard wedge.

Keyboard Type

- ** AT (includes IBM® PS2 models 50, 55, 60, 80)
- XT
- IBM PS2 (includes models 30, 70, 8556)

Keyboard Country Type

- USA **
- Belgium
- French
- German
- Italian
- Japan
- Spanish
- Swiss
- United Kingdom

** Default setting. For a complete list of default settings, see *Default Settings - Communication Parameters* starting on page 33 of this guide. Refer to the MetroSelect® Programming Guide (MLPN 00-02407) or MetroSet2's help files for information on how to change the default settings.

DEFAULT SETTINGS - COMMUNICATION PARAMETERS

Many functions of the scanner can be "programmed" - that is enabled or disabled. The scanner is shipped from the factory programmed to a set of default conditions. The default parameter of the scanner has an asterisk (*) in the charts on the following pages. If an asterisk is not in the default column then the default setting is Off or Disabled. Every interface does not support every parameter. If the interface supports a parameter listed in the charts on the following pages, a check mark (✓) will appear.

PARAMETER	DEFAULT	OCIA	USB	RS232* OR RS232 TTL	LIGHT PEN	IBM 46XX	KBW	LASER EMULATION
UPC/EAN	*	✓	✓	✓	✓	✓	✓	✓
Code 128	*	✓	✓	✓	✓	✓	✓	✓
Code 93	*	✓	✓	✓	✓	✓	✓	✓
Codabar	*	✓	✓	✓	✓	✓	✓	✓
Interleaved 2 of 5 (ITF)	*	✓	✓	✓	✓	✓	✓	✓
MOD 10 Check on ITF		✓	✓	✓	✓	✓	✓	✓
Code 11		✓	✓	✓	✓	✓	✓	✓
Code 39	*	✓	✓	✓	✓	✓	✓	✓
Full ASCII Code 39		✓	✓	✓	✓	✓	✓	✓
MOD 43 Check on Code 39		✓	✓	✓	✓	✓	✓	✓
MSI-Plessey		✓	✓	✓	✓	✓	✓	✓
MSI-Plessey 10/10 Check Digit		✓	✓	✓	✓	✓	✓	✓
MSI-Plessey MOD 10 Check Digit		✓	✓	✓	✓	✓	✓	✓
Paraf Support		✓	✓	✓	✓	✓	✓	✓
ITF Symbol Lengths	Variable	✓	✓	✓	✓	✓	✓	✓
Minimum Symbol Length	4	✓	✓	✓	✓	✓	✓	✓
Symbol Length Lock	None	✓	✓	✓	✓	✓	✓	✓
RSS14 Enable		✓	✓	✓	✓	✓	✓	✓
RSS14 ID “]e0”	*	✓	✓	✓	✓	✓	✓	✓
RSS14 App ID “01”	*	✓	✓	✓	✓	✓	✓	✓
RSS14 Check Digit	*	✓	✓	✓	✓	✓	✓	✓
RSS Expanded Enable		✓	✓	✓	✓	✓	✓	✓

DEFAULT SETTINGS - COMMUNICATION PARAMETERS

PARAMETER	DEFAULT	OCIA	USB	RS232* OR RS232 TTL	LIGHT PEN	IBM 46XX	KBW	LASER EMULATION
Expanded ID "]e0"	*	✓	✓	✓	✓	✓	✓	✓
RSS Limited Enable		✓	✓	✓	✓	✓	✓	✓
RSS Limited ID "]e0"	*	✓	✓	✓	✓	✓	✓	✓
RSS Limited App ID "01"	*	✓	✓	✓	✓	✓	✓	✓
RSS Limited Check Digit	*	✓	✓	✓	✓	✓	✓	✓
Bars High as Code 39	*				✓			✓
Spaces High as Code 39					✓			✓
Bars High as Scanned					✓			✓
Spaces High as Scanned					✓			✓
DTS/SIEMENS		✓						
DTS/NIXDORF	*	✓						
NCR F		✓						
NCR S		✓						
Poll Light Pen Source					✓			
Beeper Tone	Normal	✓	✓	✓	✓	✓	✓	✓
Beep/Transmit Sequence	Before Transmit	✓	✓	✓	✓	✓	✓	✓
Communication Timeout	None	✓	✓	✓	✓	✓	✓	✓
Razzberry Tone on Timeout		✓	✓	✓	✓	✓	✓	✓
Three Beeps on Timeout		✓	✓	✓	✓	✓	✓	✓
No Beeps on Timeout	*	✓	✓	✓	✓	✓	✓	✓
Enter Power Save Mode	10 mins.	✓	✓	✓	✓	✓	✓	✓
Same Symbol Rescan Timeout: 500 msecs Programmable in 50 msec steps (MAX 6.35 seconds)	*	✓	✓	✓	✓	✓	✓	✓
Intercharacter Delay Programmable in 1 msec steps (MAX 255 msecs)	1 msecs 10 msecs in KBW	✓	✓	✓		✓	✓	
Number of Scan Buffers	1	✓	✓	✓	✓	✓	✓	✓

DEFAULT SETTINGS - COMMUNICATION PARAMETERS

PARAMETER	DEFAULT	OCIA	USB	RS232* OR RS232 TTL	LIGHT PEN	IBM 46XX	KBW	LASER EMULATION
Transmit UPC-A Check Digit	*	✓	✓	✓	✓	✓	✓	✓
Transmit UPC-E Check Digit			✓	✓	✓	✓	✓	✓
Expand UPC-E		✓	✓	✓	✓	✓	✓	✓
Convert UPC-A to EAN-13		✓	✓	✓		✓	✓	
Transmit Lead Zero on UPC-E		✓	✓	✓	✓	✓	✓	✓
Convert EAN-8 to EAN-13		✓	✓	✓		✓	✓	
Transmit UPC-A Number System	*	✓	✓	✓	✓	✓	✓	✓
Transmit UPC-A Manufacturer ID#	*	✓	✓	✓	✓	✓	✓	✓
Transmit UPC-A Item ID#	*	✓	✓	✓	✓	✓	✓	✓
Transmit Codabar Start/Stop Characters		✓	✓	✓		✓	✓	
CLSI Editing (Enable)		✓	✓	✓		✓	✓	
Transmit Mod 43 Check Digit on Code 39		✓	✓	✓		✓	✓	
Transmit Code 39 Stop/Start Characters		✓	✓	✓		✓	✓	
Transmit Mod 10/ITF		✓	✓	✓		✓	✓	
Transmit MSI-Plessey Check Characters		✓	✓	✓		✓	✓	
Parity	Space			✓				
Baud Rate	9600			✓				
8 Data Bits				✓				
7 Data Bits	*			✓				
Stop Bits	2			✓				
Transmit Sanyo ID Characters			✓	✓			✓	

PARAMETER	DEFAULT	OCIA	USB	RS232* OR RS232 TTL	LIGHT PEN	IBM 46XX	KBW	LASER EMULATION
Nixdorf ID			✓	✓			✓	
LRC Enabled			✓	✓			✓	
UPC Prefix			✓	✓			✓	
UPC Suffix			✓	✓			✓	
Transmit AIM ID Characters			✓	✓			✓	
STX Prefix			✓	✓			✓	
ETX Suffix			✓	✓			✓	
Carriage Return	*		✓	✓			✓	
Line Feed - disabled by default in KBW	*		✓	✓			✓	
Tab Prefix			✓	✓			✓	
Tab Suffix			✓	✓			✓	
“DE” Disable Command				✓				
“FL” Laser Enable Command				✓				
DTR Handshaking Support				✓				
RTS/CTS Handshaking				✓				
Character RTS/CTS	*			✓				
Message RTS/CTS				✓				
XON/XOFF Handshaking				✓				
ACK/NAK				✓				
Two Digit Supplements		✓	✓	✓	as code 39	✓	✓	as code 39
Five Digit Supplements		✓	✓	✓	as code 39	✓	✓	as code 39
Bookland		✓	✓	✓	as code 39	✓	✓	as code 39
977 (2 digit) Supplemental Requirement		✓	✓	✓	✓	✓	✓	✓

DEFAULT SETTINGS - COMMUNICATION PARAMETERS

PARAMETER	DEFAULT	OCIA	USB	RS232* OR RS232 TTL	LIGHT PEN	IBM 46XX	KBW	LASER EMULATION
Supplements are not Required	*	✓	✓	✓	✓	✓	✓	✓
Two Digit Redundancy	*	✓	✓	✓	✓	✓	✓	✓
Five Digit Redundancy		✓	✓	✓	✓	✓	✓	✓
100 msec to Find Supplement Programmable in 100msec steps (MAX 800 msec)	*	✓	✓	✓	✓	✓	✓	✓
Coupon Code 128		✓	✓	✓	as code 39	✓	✓	as code 39
Programmable Code Lengths	7 avail.	✓	✓	✓	✓	✓	✓	✓
Programmable Prefix Characters	10 avail.		✓	✓			✓	
Programmable Suffix Characters	10 avail.		✓	✓			✓	
Prefixes for individual Code Types			✓	✓			✓	
Editing		✓	✓	✓	✓	✓	✓	✓
Inter Scan-Code Delay Programmable (100 µsec steps)	800 µsec						✓	
Function/Control Key Support							✓	
Minimum Element Width Programmable in 5.6 µsec steps	1 msec				✓			✓
Normal Depth of Field	*	✓	✓	✓	✓	✓	✓	✓
Reduced Depth of Field		✓	✓	✓	✓	✓	✓	✓
Sweet Spot Mode		✓	✓	✓	✓	✓	✓	✓

UPGRADING THE FLASH ROM FIRMWARE

The MetroSet2 program is a functional component of Metrologic's new line of Flash- based scanners. This program allows the user of a Metrologic scanner to quickly upgrade to a new or custom version of firmware. It requires the use of a personal computer running Windows 95 or greater and the use of a serial port. The user merely connects the scanner to a serial port on the PC, launches the MetroSet2 program, and blasts off to new software upgrades.

Each IS3480, regardless of the version number or communication protocol, can be upgraded. In other words, all RS232 (-41), keyboard wedge (-47), light pen (-41), laser emulation (-00), OCIA (-9), IBM 468X/469X (-11), low speed HID USB (-38), low speed POS USB (-39), integrated full speed USB (-40), and RS232, TTL (-102) units can be upgraded. To upgrade all units, a power supply and PowerLink cable
(MLPN 54-54014) are required.

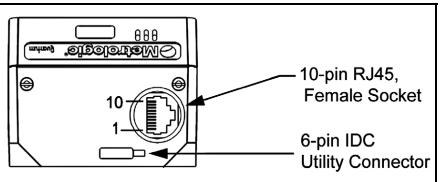
RS232 units can be upgraded using the standard PowerLink cable (MLPN 53-53xxx-3 or 54-54xxx-3).

The program guides the user with its simplistic one click approach. The user must first select the file. Once the file is selected and verified, the scanner is ready to be upgraded. Press the "Flash Scanner" button to upgrade the scanner. The unit will go into a "flash mode" – both the blue and white LEDs will be on. The user can follow the progress of the upgrade by watching the screen for details. When the upgrade is complete, the scanner will respond with its normal one beep on power up. If two beeps occur, the scanner did not upgrade properly. Contact a Metrologic service representative for additional assistance.

MetroSet2 incorporates all functions that were previously in Meteor.

Scanner Pinout Connections

The IS3480 scanner interfaces terminate to a 10-pin modular socket. The serial # label indicates the interface enabled when the scanner is shipped from the factory.



The rubber seal protecting the utility connector should only be removed if the utility connector is to be used.

Figure 15.

IS3480-**102** RS232, TTL	
Pin	**Function**
1	Ground
2	Transmit (Full RS232)
3	Receive (Full RS232)
4	RTS Output (TTL RS232)
5	CTS Input (TTL RS232)
6	DTR Input (TTL RS232)
7	Transmit (TTL RS232)
8	Receive (TTL RS232)
9	+5VDC
10	Shield Ground

IS3480-**47** Keyboard Wedge and Stand-Alone Keyboard	
Pin	**Function**
1	Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	PC Data
5	PC Clock
6	KB Clock
7	PC +5V
8	KB Data
9	+5VDC
10	Shield Ground

IS3480-**41** RS232C and Light Pen Emulation	
Pin	**Function**
1	Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	RTS Output
5	CTS Input
6	DTR Input/LTPN Source
7	Reserved
8	LTPN Data
9	+5VDC
10	Shield Ground

IS3480-**40** Full Speed USB	
Pin	**Function**
1	Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	RTS
5	CTS
6	USB D+
7	V USB
8	USB D-
9	+5VDC
10	Shield Ground

RS232 Low Speed USB, HID IS3480-**38** and POS IS3480-**39**	
Pin	**Function**
1	Ground
2	No Connect
3	No Connect
4	No Connect
5	No Connect
6	D+
7	PC +5V/V_USB
8	D-
9	No Connect
10	Drain Wire

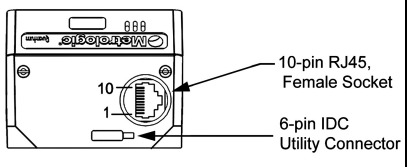
Continued on next page.

IS3480-**11** IBM 468X/469X	
Pin	**Function**
1	Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	RTS Output
5	CTS Input
6	DTR Input
7	IBM B-Transmit
8	IBM A+ Receive
9	+5VDC
10	Shield Ground

IS3480-**9** OCIA	
Pin	**Function**
1	Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	RDATA
5	RDATA Return
6	Clock In
7	Clock Out
8	Clock in Return/ Clock out Rtrn
9	+5VDC
10	Shield Ground

IS3480-**00** Laser Emulation	
Pin	**Function**
1	Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	Flip Sense/Start of Scan Output
5	Proximity Detect/Trigger Emulation Output
6	Scan/Laser Enable Input
7	Reserved
8	Data Out
9	+5VDC
10	Shield Ground

Insulation Displacement Connector (IDC), 6-pin Utility Connector	
Pin	**Function**
1	Aux +5V
2	Good Read
3	Aux Beeper
4	Aux Active
5	Aux Out
6	Aux Ground

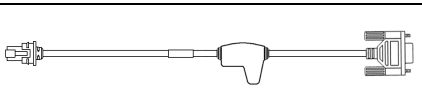


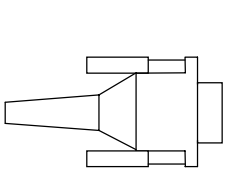
The rubber seal protecting the utility connector should only be removed if the utility connector is to be used.

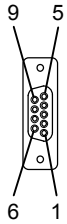
Figure 16.

Cable Connector Configurations (Host End)

"Standard" PowerLink Cable 53-53xxx-3 *coiled* or 54-54xxx-3 *straight*	
Pin	**Function**
1	Shield Ground
2	RS232 Transmit Output
3	RS232 Receive Input
4	DTR Input/Light Pen Source
5	Power/Signal Ground
6	Light Pen Data
7	CTS Input
8	RTS Output
9	+5VDC

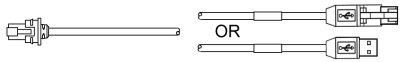






9-Pin D-Type Connector

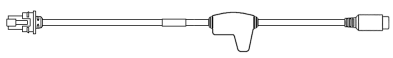
USB Power/Communication Cable *54-54213x-N-3, 54-540214x-N-3 or 54-54235x-N-3*			
Pin	**Function**		
1	PC +5V/V_USB		
2	D-		
3	D+		
4	Ground		
Shield	Shield		

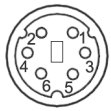


USB Type A
Locking with Power

USB
Non-Locking

Stand Alone Keyboard PowerLink Cable *54-54020x-3*	
Pin	**Function**
1	PC Data
2	No Connect
3	Power Ground
4	+5VDC PC Power to KB
5	PC Clock
6	No Connect

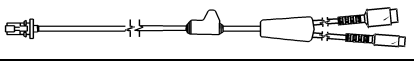




6-Pin Male Mini-DIN Connector

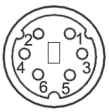
Cable Connector Configurations (Host End)

Keyboard Wedge PowerLink Cable *54-54002x-3*	
Pin	**Function**
1	Keyboard Clock
2	Keyboard Data
3	No Connect
4	Power Ground
5	+5 Volts DC



5-Pin DIN, Female

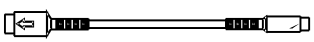
Pin	**Function**
1	PC Data
2	No Connect
3	Power Ground
4	+5 Volts DC
5	PC Clock
6	No Connect

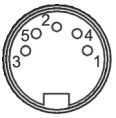


6-Pin DIN, Male

Metrologic will supply an adapter cable with a 5-pin DIN male connector on one end and a 6-pin mini DIN female connector on the other. According to the termination required, connect the appropriate end of the adapter cable to the PowerLink cable, leaving the necessary termination exposed for connecting to the keyboard and the keyboard port on the PC.

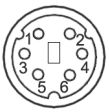
Keyboard Wedge Adapter Cable	
Pin	**Function**
1	PC Clock
2	PC Data
3	No Connect
4	Power Ground
5	+5 Volts DC





5-Pin DIN, Male

Pin	**Function**
1	Keyboard Data
2	No Connect
3	Power Ground
4	+5 Volts DC
5	Keyboard Clock
6	No Connect



6-pin Mini DIN, Female

⚠ Caution
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure. Under no circumstances should the customer attempt to service the laser scanner. Never attempt to look at the laser beam, even if the scanner appears to be nonfunctional. Never open the scanner in an attempt to look into the device. Doing so could result in hazardous laser light exposure. The use of optical instruments with the laser equipment will increase eye hazard.

⚠ Atención
La modificación de los procedimientos, o la utilización de controles o ajustes distintos de los especificados aquí, pueden provocar una luz de láser peligrosa. Bajo ninguna circunstancia el usuario deberá realizar el mantenimiento del láser del escáner. Ni intentar mirar al haz del láser incluso cuando este no esté operativo. Tampoco deberá abrir el escáner para examinar el aparato. El hacerlo puede conllevar una exposición peligrosa a la luz de láser. El uso de instrumentos ópticos con el equipo láser puede incrementar el riesgo para la vista.

⚠ Attention
L'emploi de commandes, réglages ou procédés autres que ceux décrits ici peut entraîner de graves irradiations. Le client ne doit en aucun cas essayer d'entretenir lui-même le scanner ou le laser. Ne regardez jamais directement le rayon laser, même si vous croyez que le scanner est inactif. N'ouvrez jamais le scanner pour regarder dans l'appareil. Ce faisant, vous vous exposez à une rayonnement laser qú êst hazardous. L'emploi d'appareils optiques avec cet équipement laser augmente le risque d'endommagement de la vision.

⚠ Achtung
Die Verwendung anderer als der hier beschriebenen Steuerungen, Einstellungen oder Verfahren kann eine gefährliche Laserstrahlung hervorrufen. Der Kunde sollte unter keinen Umständen versuchen, den Laser-Scanner selbst zu warten. Sehen Sie niemals in den Laserstrahl, selbst wenn Sie glauben, daß der Scanner nicht aktiv ist. Öffnen Sie niemals den Scanner, um in das Gerät hineinzusehen. Wenn Sie dies tun, können Sie sich einer gefährlichen Laserstrahlung aussetzen. Der Einsatz optischer Geräte mit dieser Laserausrüstung erhöht das Risiko einer Sehschädigung.

⚠ Attenzione
L'utilizzo di sistemi di controllo, di regolazioni o di procedimenti diversi da quelli descritti nel presente Manuale può provocare delle esposizioni a raggi laser rischiose. Il cliente non deve assolutamente tentare di riparare egli stesso lo scanner laser. Non guardate mai il raggio laser, anche se credete che lo scanner non sia attivo. Non aprite mai lo scanner per guardare dentro l'apparecchio. Facendolo potete esporVi ad una esposizione laser rischiosa. L'uso di apparecchi ottici, equipaggiati con raggi laser, aumenta il rischio di danni alla vista.

Notices

This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense. Any unauthorized changes or modifications to this equipment could void the user's authority to operate this device.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Notice
This Class A digital apparatus complies with Canadian ICES-003.

Remarque
Cet appareil numérique de la classe A, conformé a la norme NMB-003 du Canada.

European Standard

Warning
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Funkstöreigenschaften nach EN 55022:1998

Warnung!
Dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen; in diesem fall kann vom Betrieber verlangt werden, angemessene Maßnahmen durchführen.

Standard Europeo

Attenzione
Questo e' un prodotto di classe A. Se usato in vicinanza di residenze private potrebbe causare interferenze radio che potrebbero richiedere all'utilizzatore opportune misure.

Attention
Ce produit est de classe "A". Dans un environnement domestique, ce produit peut être la cause d'interférences radio. Dans ce cas l'utiliseteur peut être amené à predre les mesures adéquates.

LIMITED WARRANTY

The IS3480 Quantum™*E* scanners are manufactured by Metrologic at its Blackwood, New Jersey, U.S.A. facility. The IS3480 Quantum*E* scanners have a three (3) year limited warranty from the date of manufacture. Metrologic warrants and represents that all IS3480 Quantum*E* scanners are free of all defects in material, workmanship and design, and have been produced and labeled in compliance with all applicable U.S. Federal, state and local laws, regulations and ordinances pertaining to their production and labeling.

This warranty is limited to repair, replacement of Product or refund of Product price at the sole discretion of Metrologic. Faulty equipment must be returned to the Metrologic facility in Blackwood, New Jersey, U.S.A. or Puchheim, Germany. To do this, contact Metrologic's Customer Service/Repair Department to obtain a Returned Material Authorization (RMA) number.

In the event that it is determined the equipment failure is covered under this warranty, Metrologic shall, at its sole option, repair the Product or replace the Product with a functionally equivalent unit and return such repaired or replaced Product without charge for service or return freight, whether distributor, dealer/reseller, or retail consumer, or refund an amount equal to the original purchase price.

This limited warranty does not extend to any Product which, in the sole judgement of Metrologic, has been subjected to abuse, misuse, neglect, improper installation, or accident, nor any damage due to use or misuse produced from integration of the Product into any mechanical, electrical or computer system. The warranty is void if the case of Product is opened by anyone other than Metrologic's repair department or authorized repair centers.

THIS LIMITED WARRANTY, EXCEPT AS TO TITLE, IS IN LIEU OF ALL OTHER WARRANTIES OR GUARANTEES, EITHER EXPRESS OR IMPLIED, AND SPECIFICALLY EXCLUDES, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE UNDER THE UNIFORM COMMERCIAL CODE, OR ARISING OUT OF CUSTOM OR CONDUCT. THE RIGHTS AND REMEDIES PROVIDED HEREIN ARE EXCLUSIVE AND IN LIEU OF ANY OTHER RIGHTS OR REMEDIES. IN NO EVENT SHALL METROLOGIC BE LIABLE FOR ANY INDIRECT OR CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, DAMAGES TO PERSON OR PROPERTY, OR EFFECT ON BUSINESS OR PROPERTY, OR OTHER DAMAGES OR EXPENSES DUE DIRECTLY OR INDIRECTLY TO THE PRODUCT, EXCEPT AS STATED IN THIS WARRANTY. IN NO EVENT SHALL ANY LIABILITY OF METROLOGIC EXCEED THE ACTUAL AMOUNT PAID TO METROLOGIC FOR THE PRODUCT. METROLOGIC RESERVES THE RIGHT TO MAKE ANY CHANGES TO THE PRODUCT DESCRIBED HEREIN.

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Fax: 49-89-89019-200
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PATENTS

Patent Information

This METROLOGIC product may be covered by one or more of the following U.S. Patents:

U.S. Patent No.;
5,216,232; 5,260,553; 5,340,971; 5,424,525; 5,484,992; 5,525,789; 5,528,024; 5,557,093; 5,616,908; 5,627,359; 5,637,852; 5,661,292; 5,777,315; 5,789,730; 5,789,731; 5,811,780; 5,828,048; 5,844,227; 5,925,870; 6,029,894; 6,098,885; 6,209,789; 6,257,492; 6,286,760; 6,299,067; 6,347,743; 6,412,696; 6,460,767;

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Other worldwide patents pending.

A

AC 2, 6–10
Accessories 2, 3
Adapter 8
Audible Indicator 12, 18–20, 26–29, 38

B

Bar Code 18–20, 26–29, 30
Bar Width 30
Beep 18, 19, 20, 26–29, 38
Blue LED 18–20, 26–29, 38
Button 4, 12–17

C

Cable
  Communication 2, 6–10, 26–29, 38, 41–42
  Keyboard Wedge 41–42
  Pin Assignments 41–42
  PowerLink 2, 6–10, 38, 41–42
  Troubleshooting 26–29
  USB 41–42
Caution 5, 6–10, 43
Class 44
CodeGate 1, 12–17
Communication 19, 26–29, 32
  Parameters 33–37
Compliance 6–10
Components 2, 4
Configuration 18, 20
  Default 33–37
Current 31
Customer Service ..... ii, 45

D

DC 2, 31
Default Settings ... 12, 13, 32, 33–37
Depth of Field
  Normal 21, 23, 30, 37
  Reduced 22, 23, 24, 30, 37

F

Failure
  Modes 20
FCC 44
Firmware 38
Flash ROM 1, 38

H

Host 26–29

I

IBM 7, 33–37
Indicator
  Audible 4, 12, 18–20, 26–29, 30, 38
  Failure 20
  Visual 4, 18–20, 26–29, 30, 38
Interface 30
  IBM 1, 7, 33–37
  Keyboard Wedge. 1, 8, 29, 33–37
  Laser Emulation 1, 11, 33–37
  Light Pen 1, 6, 33–37
  OCIA 1, 7, 33–37
  RS232 ..... 1, 6, 28, 29, 33–37
  RS232 TTL 1, 6, 32
  Stand-Alone Keyboard 1, 9
  Troubleshooting 26–29
  USB 1, 10, 11, 33–37
IR Activation Range
  Far 25
  Near 25

K

Keyboard Country Type 32
Keyboard Type 32
Keyboard Wedge 8, 29, 33–37

L

Label
  Caution 5
  Serial Number 5
Laser 43
Laser Aperture 4
Laser Emulation 11, 33–37
LED 18–20
Light Pen 6, 33–37
Light Source 30

M

Maintenance 4

Manual.....2, 18, 32
Meteor.....38
MetroSet2.....38
Mode of Operation
  Button.....17
  Primary.....12–17
  Secondary.....12–17
  Sweet Spot Mode.....17, 37
Motor Speed.....30
Mounting Specifications.....5
MX009.....11

N

Notices.....44

O

OCIA.....7, 33–37
Omnidirectional.....12–17
Operation.....44

P

Patents.....46
PC.....32, 42
Pin Assignments
  Cable.....41–42
  Scanner.....39–40
Port.....6–10, 26–29
Power.....2, 6–10, 38
PowerLink.....6–10
Product Safety.....43
Property.....46
Protocol.....32

R

RAM.....28
Raster.....12–17
Razzberry Tone.....18–20, 28
Read Rate.....17
Repair.....20
Replacement Parts.....3
RMA.....45
ROM.....28
RS232.....6, 28, 29, 33–37
RS232 TTL.....6, 32
Rubber Utility Seal.....3, 4

S

Scan Lines.....30
Scan Pattern.....1, 30
  Horizontal Raster.....12
  Omnidirectional.....12–17
  Primary.....12–17
  Secondary.....12–17
  Single-Line.....12–17
Scan Speed.....30
SELV.....6–10
Single-Line.....12–17
Specification
  Electrical.....31
  Environmental.....31
  Mechanical.....30
  Operational.....30
Stand-Alone Keyboard.....9
Storage.....31
Sweet Spot Mode.....17, 37

T

Tone.....18
Tones.....1
Transformer.....2, 31
Troubleshooting.....26–29

U

Upgrade.....38
USB.....10, 11, 33–37
Utility Connector.....4

V

Ventilation.....31
Visual Indicator.....18–20, 26–29, 38
  Blue LED.....4, 18–20, 26–29
  White LED.....4, 18–20, 26–29
  Yellow LED.....4, 18–20, 26–29
Voltage.....6–10, 31
Volume.....18

W

Warranty.....45
Weight.....30
White LED.....18–20, 26–29, 38
Window.....4

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